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source assembly comprising an x-ray source configured to emit x-ray signals and coupled to said positioning means, and a detector assembly comprising a detector coupled to said positioning means, said system configured to:

enable an operator to select a mode of operation from a plurality of modes of the imaging system;

alter the position of said detector assembly and said source assembly relative to said other assembly and the object based on the selected mode; and

generate an image of the object.

Remarks

Claims 1-35 are pending in this application. Claims 1-11, 15-29, and 34-35 stand rejected. Claims 12-14, 22-23, and 30-33 are objected to.

The objection to the drawings under 37 CFR 1.83 is respectfully traversed. The specification describes, for example at page 2, line 25 to page 3, line 9, and Figures 2 and 3 illustrate the source assembly and the detector assembly movably coupled. Additionally, Figures 8 and 9 and the specification, for example at page 14, lines 17-25, recites that the source assembly and the detector assembly are moveable relative to each as well as to the positioning means as described in the specification. Applicants respectfully submit that the drawings permit an artisan of ordinary skill to have a proper understanding of the disclosed invention. For example, and referring to Figure 9, Applicants respectfully submit that an artisan of ordinary skill would understand how motion could be obtained in the Z axis based on the specification in light of the Figures. Accordingly, Applicants respectfully submit that adding a movably coupling member to any of the Figures is not essential for a proper understanding of the disclosed invention.

For at least the reasons set forth above, Applicants respectfully request that the rejection to the drawings be withheld.

The rejection of Claims 8, 22, and 23 under 35 U.S.C. 112, first paragraph is respectfully traversed.

Applicants respectfully submit that Figures 8 and 9 illustrate (and the specification at page 14, lines 17-25 discusses) how the source assembly and the detector assembly move relative to each other and the positioning means to alter the plane of interest.

For at least the reasons set forth above, Applicants respectfully request that the section 112 rejection of Claims 8, 22, and 23 be withdrawn.

The rejection of Claims 1, 3, 18, 20, 24-27, and 34 under 35 U.S.C. 102(e) as being anticipated by Stenfors (U.S. Patent 6,309,102) is respectfully traversed.

Applicants respectfully submit that Stenfors is not a proper section 102 reference. See MPEP 2136.03. The present application claims the benefit of U.S. Provisional Application No. 60/114,479, filed December 31, 1998. Stenfors was filed in the United States on August 13, 1999.

For at least the reasons set forth above Applicants respectfully requests that the rejection of Claims 1, 3, 18, 20, 24-27, and 34 under 35 U.S.C. 102(e) as being anticipated by Stenfors be withdrawn.

The rejection of Claims 1-3, 18-20, 24-27, and 35 under 35 U.S.C. § 102(b) as being anticipated by Baba et al. (U.S. Patent 5,598,453) is respectfully traversed.

Baba et al. describe an x-ray imaging apparatus which includes "an imaging-sequence controller 1, and X-ray tube 2, an X-ray grid 3...a rotary gantry 8, a bed board 9, a gantry rotation controller 10, a board transfer controller 11" (Col. 9, lines 57-62). Baba et al. further

describe "the center of a part of the subject 14 to be imaged is set to be in the vicinity of the rotation center of the imaging unit" (Col. 10, lines 6-8). "The imaging-sequence controller 1 defines a movement sequence for rotating the rotary gantry 8 having a pair of X-ray detection unit 4' and X-ray tube 2 fixed thereto." (Col. 10, lines 22-24). "The bed board 9 sets a fluoroscopic and radiographic posture of the subject 14. The bed board 9 is horizontally positioned, and in a rotation imaging mode it is moved in a direction parallel to the rotation plane, on which the X-ray detection unit 4' is mounted" (Col. 10, lines 30-34). "In the case of fluoroscopic or radiographic mode (A), the collected data are displayed on the image display unit 21 (step 305) and at the same time, the bed board and imaging unit are moved for use in the next imaging operation" (Col. 12, lines 27-30).

Claim 1 recites a method of generating an image of an object using a multimode imaging system configured to operate in a plurality of modes of operation, the multimode imaging system including a source assembly, a detector assembly, and a means for positioning the source assembly and the detector assembly, the source assembly coupled to the means for positioning and including an x-ray source configured to emit x-ray signals, the detector assembly coupled to the means for positioning and including a detector, wherein the method includes "selecting a first mode of operation; positioning the source assembly and the detector assembly in a first position for the first mode of operation; selecting a second mode of operation; positioning the source assembly and the detector assembly for the second mode of operation in a second position different from the first position; and generating an image of the object for each determined mode of operation."

Baba et al. do not describe or suggest a method of generating an image of an object using a multimode imaging system configured to operate in a plurality of modes of operation, the multimode imaging system including a source assembly, a detector assembly, and a means for positioning the source assembly and the detector assembly, the source assembly coupled to the means for positioning and including an x-ray source configured to emit x-ray signals, the

detector assembly coupled to the means for positioning and including a detector, wherein the method includes selecting a first mode of operation, positioning the source assembly and the detector assembly in a first position for the first mode of operation, selecting a second mode of operation, positioning the source assembly and the detector assembly for the second mode of operation in a second position different from the first position, and generating an image of the object for each determined mode of operation. Moreover, Baba et al. do not describe “positioning the source assembly and the detector assembly for the second mode of operation in a second position different from the first position, and generating an image of the object for each determined mode of operation.” Rather, Baba et al. describe in fluoroscopic or radiographic mode, the bed board is horizontally positioned, and in a rotation imaging mode it is moved in a direction parallel to the rotation plane. For the reasons set forth above, Claim 1 is submitted to be patentable over Baba et al.

Claims 2-3 depend, directly or indirectly, from independent Claim 1. When the recitations of Claims 2-3 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2-3 likewise are patentable over Baba et al.

Claim 18 recites an imaging system for generating an image of an object, wherein the imaging system includes a base, a positioning means movably coupled to the base, an x-ray source assembly including an x-ray source configured to emit x-ray signals and coupled to the positioning means, and a detector assembly comprising a detector coupled to the positioning means, wherein the system is configured to “enable an operator to select a mode of operation from a plurality of modes of the imaging system; alter the position of said detector assembly and said source assembly relative to said other assembly and the object based on the selected mode; and generate an image of the object.”

Baba et al. do not describe or suggest an imaging system configured to enable an operator to select a mode of operation from a plurality of modes of the imaging system, alter the position

of the detector assembly and the source assembly relative to the other assembly and the object based on the selected mode, and generate an image of the object. Moreover, Baba et al. do not describe that an operator can select a mode of operation from a plurality of modes of the imaging system and alter the position of the detector assembly and the source assembly relative to the other assembly and the object based on the selected mode. Rather, Baba et al. describe that a rotary gantry includes a pair of X-ray detection units and an X-ray tube "fixed" thereto. For the reasons set forth above, Claim 18 is submitted to be patentable over Baba et al.

Claims 19-20, 24-27, and 35 depend, directly or indirectly, from independent Claim 18. When the recitations of Claims 19-20, 24-27 and 35 are considered in combination with the recitations of Claim 18, Applicants submit that dependent Claims 19-20, 24-27 and 35 likewise are patentable over Baba et al.

For at least the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1-3, 18-20, 24-27, and 35 be withdrawn.

The rejection of Claims 1-3, 18-22, 24-29, and 35 under 35 U.S.C. § 102(e) as being anticipated by Roos et al. (U.S. Patent 6,041,097) is respectfully traversed.

Roos et al. describe "a large diameter track 10, on the order of 1.5 meters, is stationarily mounted to the floor...the track is a large diameter bearing whose outer race 12 is stationarily supported by a stationary support 14 and whose inner race 16 is freely rotatable within the outer race. An x-ray tube 18 is mounted to the inner race for rotation therein. A flat panel detector 20 is mounted to the inner race opposite the x-ray source" (Col. 3, lines 36-44). Roos et al. also describe "A drive motor 22 is connected with the inner race for indexing the x-ray tube and flat panel detector to selectable angular orientations around a central axis of the ring" (Col. 3, lines 51-52). "At each step, the timing and control circuit causes an x-ray tube power supply (32) to pulse the x-ray tube at radiographic energy levels in a radiographic mode of operation, and fluoroscopic energy levels in a fluoroscopic mode of operation" (Col. 3, lines 56-62). "The

resolution of the acquired image data is adjustable by adjusting the displacement of the flat panel detector from the subject. More specifically, a mechanical drive 50 moves the flat panel detector toward and away from a subject” (Col. 4, lines 31-35).

Claim 1 recites a method of generating an image of an object using a multimode imaging system configured to operate in a plurality of modes of operation including at least three modes, the multimode imaging system including a source assembly, a detector assembly, and a means for positioning the source assembly and the detector assembly, the source assembly coupled to the means for positioning and including an x-ray source configured to emit x-ray signals, the detector assembly coupled to the means for positioning and including a detector, wherein the method includes “selecting a first mode of operation; positioning the source assembly and the detector assembly in a first position for the first mode of operation; selecting a second mode of operation; positioning the source assembly and the detector assembly for the second mode of operation in a second position different from the first position; and generating an image of the object for each determined mode of operation.”

Roos et al. do not describe or suggest a method of generating an image of an object using a multimode imaging system configured to operate in a plurality of modes of operation including at least three modes, the multimode imaging system including a source assembly, a detector assembly, and a means for positioning the source assembly and the detector assembly, the source assembly coupled to the means for positioning and including an x-ray source configured to emit x-ray signals, the detector assembly coupled to the means for positioning and including a detector, wherein the method includes selecting a first mode of operation, positioning the source assembly and the detector assembly in a first position for the first mode of operation, selecting a second mode of operation, positioning the source assembly and the detector assembly for the second mode of operation in a second position different from the first position, and generating an image of the object for each determined mode of operation. Moreover, Roos et al. do not describe or suggest “positioning the source assembly and the detector assembly for the second

mode of operation in a second position different from the first position, and generating an image of the object for each determined mode of operation.” Rather, Roos et al. describe that a flat panel detector is mounted to the inner race opposite the x-ray source, and that a control circuit causes an x-ray tube power supply to pulse the x-ray tube at radiographic energy levels in a radiographic mode of operation, and fluoroscopic energy levels in a fluoroscopic mode of operation, and that the resolution can be increased by moving the detector. For at least the reasons set forth above, Claim 1 is submitted to be patentable over Roos et al.

Claims 2-3 depend, directly or indirectly, from independent Claim 1. When the recitations of Claims 2-3 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2-3 likewise are patentable over Roos et al.

Claim 18 recites an imaging system for generating an image of an object, wherein the imaging system includes a base, a positioning means movably coupled to the base, an x-ray source assembly including an x-ray source configured to emit x-ray signals and coupled to the positioning means, and a detector assembly comprising a detector coupled to the positioning means, wherein the system is configured to "enable an operator to select a mode of operation from a plurality of modes of the imaging system; alter the position of said detector assembly and said source assembly relative to said other assembly and the object based on the selected mode; and generate an image of the object.”

Roos et al. do not describe or suggest an imaging system configured to enable an operator to select a mode of operation from a plurality of modes of the imaging system, alter the position of the detector assembly and the source assembly relative to the other assembly and the object based on the selected mode, and generate an image of the object. Moreover, Roos et al. do not describe that an operator can select a mode of operation from a plurality of modes of the imaging system and alter the position of the detector assembly and the source assembly relative to the other assembly and the object based on the selected mode. Rather, Roos et al. describe that a flat

panel detector is mounted to the inner race opposite the x-ray source and that the resolution can be increased by moving the detector. For the reasons set forth above, Claim 18 is submitted to be patentable over Roos et al.

Claims 19-22, 24-29, and 35 depend, directly or indirectly, from independent Claim 18. When the recitations of Claims 19-22, 24-29 and 35 are considered in combination with the recitations of Claim 18, Applicants submit that dependent Claims 19-22, 24-27 and 35 likewise are patentable over Roos et al.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1-3, 18-22, 24-29, and 35 be withdrawn.

The rejection of Claims 4-7, 9-10, 15-16, 18-21, 24-27, and 34 under 35 U.S.C. § 102(b) as being anticipated by Grady et al. (U.S. Patent 4,365,343) is respectfully traversed.

Grady et al. describe an "X-ray apparatus in FIG. 1 comprises a support including an L-shaped base L with a horizontal arm La swinging on a pivot assembly P, and an upright arm Lb extending at right angles to the horizontal arm" (Col. 2, lines 1-4). Grady et al. further describe that "The radiation source housing X and the two radiation receptors II and FC are slidably mounted on the upper and lower arms Ua and Ub respectively so that they can be moved up and down along the radiation axis A2" (Col. 2, lines 28-31).

Claim 4 recites an imaging system for generating an image of an object wherein the imaging system is configured to "operate in a plurality of modes of operation including at least three modes and comprising: a source assembly comprising a movable x-ray source configured to emit x-ray signals; a detector assembly comprising a movable detector; a positioning means for positioning said source assembly and said detector assembly relative to the object, said source assembly movably coupled to said positioning means and said detector assembly movably

coupled to said positioning means; and a controller enabling an operator to selectively operate said system in a plurality of modes.”

Grady et al. do not describe or suggest an imaging system configured to operate in a plurality of modes of operation including at least three modes wherein the imaging system includes a source assembly including a movable x-ray source configured to emit x-ray signals, a detector assembly including a movable detector, a positioning means for positioning the source assembly and the detector assembly relative to the object, the source assembly movably coupled to the positioning means and the detector assembly movably coupled to the positioning means; and a controller enabling an operator to selectively operate the system in a plurality of modes. Moreover, Grady et al. do not describe that an imaging system is configured to operate in a plurality of modes of operation wherein the imaging system also includes a controller enabling an operator to selectively operate the system in a plurality of modes. Rather, Grady et al. describe an X-ray apparatus wherein the radiation source housing and the two radiation receptors are slidingly mounted on the upper and lower arms respectively so that they can be moved up and down along the radiation axis. For the reasons set forth above, Claim 4 is submitted to be patentable over Grady et al.

Claims 5-7, 9-10, and 15-16 depend, directly or indirectly, from independent Claim 4. When the recitations of Claims 5-7, 9-10, and 15-16 are considered in combination with the recitations of Claim 4, Applicants submit that dependent Claims 5-7, 9-10, and 15-16 likewise are patentable over Grady et al.

Claim 18 recites an imaging system for generating an image of an object, wherein the imaging system includes a base, a positioning means movably coupled to the base, an x-ray source assembly including an x-ray source configured to emit x-ray signals and coupled to the positioning means, and a detector assembly comprising a detector coupled to the positioning means, wherein the system is configured to "enable an operator to select a mode of operation

from a plurality of modes of the imaging system; alter the position of said detector assembly and said source assembly relative to said other assembly and the object based on the selected mode; and generate an image of the object.”

Grady et al. do not describe or suggest an imaging system configured to enable an operator to select a mode of operation from a plurality of modes of the imaging system, alter the position of the detector assembly and the source assembly relative to the other assembly and the object based on the selected mode, and generate an image of the object. Moreover, Grady et al. do not describe an imaging system configured to enable an operator to select a mode of operation from a plurality of modes of the imaging system and alter the position of the detector assembly and the source assembly relative to the other assembly and the object based on the selected mode. Rather, Grady et al. describe an X-ray apparatus wherein the radiation source housing and the two radiation receptors are slidingly mounted on the upper and lower arms respectively so that they can be moved up and down along the radiation axis. For the reasons set forth above, Claim 18 is submitted to be patentable over Grady et al.

Claims 19-21, 24-27, and 34 depend, directly or indirectly, from independent Claim 18. When the recitations of Claims 19-21, 24-27 and 34 are considered in combination with the recitations of Claim 18, Applicants submit that dependent Claims 19-21, 24-27 and 34 likewise are patentable over Grady et al.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 4-7, 9-10, 15-16, 18-21, 24-27, and 34 be withdrawn.

The rejection of Claims 2 and 19 under 35 U.S.C. § 103 as being unpatentable over Stenfors (U.S. Pat. 6,309,103) in view of Khutoryansky et al. (U.S. Pat. 5,636,259) is respectfully traversed.

Applicants respectfully submit that Stenfors is not a proper section 103 reference because Stenfors is not a proper section 102 reference. See MPEP 2141.01. Accordingly, the combination of Stenfors and Khutoryansky et al. is not a proper combination.

For at least the reasons set forth above, Applicants respectfully request that the section 103 rejection of Claims 2 and 19 as being unpatentable over Stenfors in view of Khutoryansky et al. be withdrawn.

The rejection of Claims 4, 6, 9-10, and 15-16 under 35 U.S.C. § 103 as being unpatentable over Stenfors (U.S. Pat. 6,309,103) in view of Grady et al. (U.S. Pat. 4,365,343) is respectfully traversed because Stenfors is not a proper section 103 reference as argued above.

For at least the reasons set forth above, Applicants respectfully request that the section 103 rejection of Claims 4, 6, 9-10, and 15-16 as being unpatentable over Stenfors in view of Grady et al. be withdrawn.

The rejection of Claim 5 under 35 U.S.C. § 103 as being unpatentable over Stenfors and Grady et al. further in view of Khutoryansky is respectfully traversed because Stenfors is not a proper section 103 reference as argued above.

For at least the reasons set forth above, Applicants respectfully request that the section 103 rejection of Claim 5 be withdrawn.

The rejection of Claim 11 under 35 U.S.C. § 103 as being unpatentable over Grady et al. as applied to Claim 4 above, and further in view of Gilblom is respectfully traversed.

Grady et al. is described above. Gilblom describes "An x-ray generator tube 10 generates a beam of x-rays 12 adapted to pass through an object such as a patient to be x-rayed 14 and be received by a flat amorphous silicon imaging panel 20" (Col. 3, lines 5-8).

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. Obviousness cannot be established by merely suggesting that it would have been obvious to one of ordinary skill in the art to modify Grady et al. according to the teachings of Gilblom. More specifically, as is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Neither Grady et al. nor Gilblom, alone or in combination, describe or suggest the claimed combination. Rather, the present Section 103 rejection appears to be based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Specifically Grady et al. is cited for its teaching that an X-ray apparatus includes a radiation source housing and two radiation receptors which are slidably mounted on the upper and lower arms respectively so that they can be moved up and down along the radiation axis, and Gilblom is cited for its teaching of a flat detector panel. Since there is no teaching nor suggestion in the cited art for the claimed combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicants respectfully request that the Section 103 rejection of Claim 11 be withdrawn.

Further, and to the extent understood, neither Grady et al. nor Gilblom, alone or in combination, describe or suggest the claimed combination, and as such, the presently pending claims are patentably distinguishable from the cited combination. Specifically, Claim 11 depends from independent Claim 4 which recites an imaging system for generating an image of an object wherein the imaging system is configured to "operate in a plurality of modes of operation including at least three modes and comprising: a source assembly comprising a movable x-ray source configured to emit x-ray signals; a detector assembly comprising a movable detector; a positioning means for positioning said source assembly and said detector assembly relative to the object, said source assembly movably coupled to said positioning means

and said detector assembly movably coupled to said positioning means; and a controller enabling an operator to selectively operate said system in a plurality of modes.”

Neither Grady et al. or Gilblom, alone or in combination, describe or suggest an imaging system for generating an image of an object wherein the imaging system is configured to operate in a plurality of modes of operation including at least three modes and wherein the imaging system includes a source assembly including a movable x-ray source configured to emit x-ray signals, a detector assembly including a movable detector, a positioning means for positioning the source assembly and the detector assembly relative to the object, and wherein the source assembly is movably coupled to the positioning means and the detector assembly is movably coupled to the positioning means, and a controller enabling an operator to selectively operate the system in a plurality of modes. Moreover, neither Grady et al. nor Gilblom describe or suggest an imaging system configured to operate in a plurality of modes of operation including at least three modes wherein the imaging system includes a controller enabling an operator to selectively operate the system in a plurality of modes. Rather Grady et al. describe that an X-ray apparatus includes a radiation source housing and two radiation receptors which are slidingly mounted on the upper and lower arms respectively so that they can be moved up and down along the radiation axis, and Gilblom describes a flat detector panel. For the reasons set forth above, Claim 4 is submitted to be patentable over Grady et al. in view of Gilblom.

Claim 11 depends directly from independent Claim 4. When the recitations of Claim 11 are considered in combination with the recitations of Claim 4, Applicants submit that dependent Claim 11 likewise is patentable over Grady et al. in view of Gilblom.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 11 be withdrawn.

The rejection of Claim 34 under 35 U.S.C. § 103 as being unpatentable over Baba et al. (U.S. Pat. 5,598,453) is respectfully traversed.

Baba et al. is described above. Applicants respectfully submit that the Section 103 rejection of the presently pending claim is not a proper rejection. As is well established, the mere assertion that it would have been obvious to one of ordinary skill in the art to modify Baba et al. to obtain the claimed recitations of the present invention does not support a prima facie obvious rejection. Rather, each allegation of what would have been an obvious matter of design choice must always be supported by citation to some reference work recognized as standard in the pertinent art and the Applicants given the opportunity to challenge the correctness of the assertion or the notoriety or repute of the cited reference. Applicants have not been provided with the citation to any reference supporting the combination made in the rejection. The rejection, therefore, fails to provide the Applicants with a fair opportunity to respond to the rejection, and fails to provide the Applicants with the opportunity to challenge the correctness of the rejection.

Further, and to the extent understood, Baba et al. do not describe or suggest the claimed combination. More specifically, Claim 34 depends from independent Claim 18 which recites an imaging system for generating an image of an object, wherein the imaging system includes a base, a positioning means movably coupled to the base, an x-ray source assembly including an x-ray source configured to emit x-ray signals and coupled to the positioning means, and a detector assembly including a detector coupled to the positioning means, wherein the system is configured to "enable an operator to select a mode of operation from a plurality of modes of the imaging system; alter the position of the detector assembly and the source assembly relative to the other assembly and the object based on the selected mode; and generate an image of the object."

Baba et al. do not describe or suggest an imaging system as recited in Claim 18. More specifically, Baba et al. do not describe or suggest that an operator can "alter the position of the detector assembly and the source assembly relative to the other assembly and the object based on the selected mode." Rather, Baba et al. describe that a rotary gantry includes a pair of X-ray

detection units and an X-ray tube "fixed" thereto. For the reasons set forth above, Claim 18 is submitted to be patentable over Baba et al.

Claim 34 depends directly from independent Claim 18. When the recitations of Claim 34 are considered in combination with the recitations of Claim 18, Applicants submit that dependent Claim 34 is likewise is patentable over Baba et al.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 34 be withdrawn.

Claims 12-14 and 30-33 were indicated as being allowable if amended to incorporate the recitations of the base claim and any intervening claims. Claims 12-14 depend, directly or indirectly, from independent Claim 4 which is submitted to be in condition for allowance. When the recitations of Claims 12-14 are considered in combination with the recitations of Claim 4, Applicants submit that dependent Claims 12-14 are also in condition for allowance.

Claims 30-33 depend, directly or indirectly, from independent Claim 18 which is submitted to be in condition for allowance. When the recitations of Claims 30-33 are considered in combination with the recitations of Claim 18, Applicants submit that dependent Claims 30-33 are also in condition for allowance.

For the reasons set forth above, Applicants respectfully requests that the objections to Claims 12-14 and 30-33 be withdrawn.

Applicants respectfully traverse the finality of the office action dated April 1, 2002. Specifically, because an improper reference was cited in a plurality of rejections, Applicants respectfully request that the finality be withdrawn and another office action be issued.

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15-CT-4697
PATENT

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



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Express Mail No. EL 817714294 US
15-CT-4697
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Senzig et al. :
Serial No.: 09/451,965 : Art Unit: 2882
Filed: November 30, 1999 : Examiner: Ho, Allen C.
For: IMAGING SYSTEM FOR :
GENERATING HIGH QUALITY :
IMAGES :

SUBMISSION OF MARKED UP CLAIMS

Hon. Commissioner for Patents
Washington, D.C. 20231

Submitted herewith are marked up claims in accordance with 37 C.F.R. 1.121(c)(1)(ii),
wherein additions are underlined and deletions are [bracketed].

IN THE CLAIMS

1. (once amended) A method of generating an image of an object using a multimode
imaging system configured to operate in [at least one of] a plurality of modes of operation
including at least three modes, the multimode imaging system including a source assembly, a
detector assembly, and a means for positioning the source assembly and the detector assembly,
the source assembly coupled to the means for positioning and including an x-ray source
configured to emit x-ray signals, the detector assembly coupled to the means for positioning and
including a detector, said method comprising the steps of:

selecting [at least one] a first mode of operation;

positioning the source assembly and the detector assembly in a first position for the first [each determined] mode of operation;

selecting a second mode of operation;

positioning the source assembly and the detector assembly for the second mode of operation in a second position different from the first position; and

generating an image of the object for each determined mode of operation.

4. (once amended) An imaging system for generating an image of an object, said imaging system configured to operate in [at least one of] a plurality of modes of operation including at least three modes and comprising:

a source assembly comprising a movable x-ray source configured to emit x-ray signals;

a detector assembly comprising a movable detector;

a positioning means for positioning said source assembly and said detector assembly relative to the object, said source assembly movably coupled to said positioning means and said detector assembly movably coupled to said positioning means; and

a controller enabling an operator to selectively operate said system in [at least one of] a plurality of modes.

5. (twice amended) A [method] system in accordance with Claim 4 wherein said plurality of modes comprises at least one of a computed tomography volume mode, an x-ray fluoro mode, and a tomosynthesis mode.

18. (once amended) An imaging system for generating an image of an object, said imaging system comprising a base, a positioning means movably coupled to said base, an x-ray

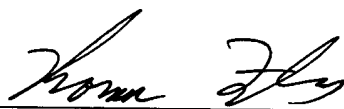
source assembly comprising an x-ray source configured to emit x-ray signals and coupled to said positioning means, and a detector assembly comprising a detector coupled to said positioning means, said system configured to:

enable an operator to select a mode of operation from a plurality of modes of the imaging system;

alter the position of said detector assembly and said source assembly relative to said other assembly and the object based on the selected mode; and

generate an image of the object.

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